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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/581,379

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Andrew Richardson

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ORRICK, HERRINGTON & SUTCLIFFE, LLP

IP PROSECUTION DEPARTMENT

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EXAMINER

ANDLER, MICHAEL S

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/581,379

**Applicant(s)**

RICHARDSON, ANDREW

**Examiner**

Michael Andler

**Art Unit**

2876

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 February 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9, 11-15 and 17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-15 and 17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ ~~Notice of Informal Patent Application~~
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. The examiner acknowledges and has entered the arguments/amendment filed on 1 February 2010. Claims **10, 16 and 18-49** are cancelled by this amendment. Claims **1-9 and 11-15 and 17** are currently pending.

#### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

- a) Claims **1-9 and 11-14**, drawn to an apparatus and related method claims **15 and 17** are rejected under 35 U.S.C. 103(a) as being unpatentable over Oshima et al. (US 5,463,212).

Regarding claims **1, 11 and 15**, Oshima et al. discloses a bar code scanner (Fig 20) comprising

a body (Fig 20, item 250),

a light source (Fig 20, item 220) and a light detector (Fig 20, item 221) located within the body;

and metallic sheet element mounted relative to the body and formed with an elongate light transmissive opening arranged for being brought into proximity with a surface bearing a bar code for scanning thereof (See Fig 20 items 240 and 241; Fig 12, item 101; Fig 22; and Fig 1, item 3),

the light source (Fig 20, item 220) being configured to direct a beam to illuminate the bar code (Col 20, lines 16-18) and

the light detector (Fig 20, item 221) being configured to detect light from said beam reflected back from the surface through the opening (Col 20, lines 16-18 and Fig 22),

wherein said opening comprises a slit (Fig 32, item 241) formed in the metallic sheet element (See Fig 32, item 240 and Col 21, lines 23-26) by punching (Col 21, lines 23-25).

Oshima et al. discloses investigations performed with the width of the slit as 0.5 mm, 0.6 mm, 0.7mm, 1 mm, 1.2 mm, and 1.4 mm (See examples for slit width "e" in Col 27-29) to read a minimum 1 mm image mark (Col 27, lines 30-32) in order to determine an optimal range of values for the dimensions of the bar code reader to achieve excellent S/N ratio (Col 40, lines 40-43 and 65-67) and further discloses a clearance (i.e. field of view) of 3 mm to the surface on which the bar code is formed (Col 18, lines 55-57).

Oshima et al. suggests that "the slit width s is determined to be the same, preferably slightly narrower than the width of the thinnest bar code where the latent image 102 is formed according to the bar code system as shown in Fig. 16" (Col 18, lines 41-45) and that "it is recommended to restrict the value of e/a to range 0.6 to 1.4, more preferably .7 to 1.2" (Col 20, lines 40-43).

Oshima et al. does not specifically teach the width of the slit being in the range 0.2 to 0.4 mm and preferably .3 mm.

However, it would be obvious to modify the slit width disclosed by Oshima et al. to a range of 0.2 to 0.4 mm using the same disclosed relative dimensions in the examples of Col 27-29 in order to provide excellent S/N ratio (Col 40, lines 40-43 and 65-67) for bar codes of a smaller width (See Fig 40 and Col 30, lines 42-43 where it is understood that for  $a = .33$  mm (nominal UPC-A bar width), the range of  $e = .19$  to  $.46$  mm).

Furthermore, it has been held that "where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device" (See MPEP 2144.04, Section IV, Part A). (*In re Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed Cir. 1984), *cert.denied*, 469 U.S. 830, 225 USPQ 232 (1984).

Oshima et al. discloses wherein the slit is formed by punching a thin metallic element (Col 21, lines 25-26) where the dimensions may be as small as 0.5 mm (Col, 29, line 25).

Oshima et al. suggests that "the invention may be varied in many ways" and that "all such modifications as would be obvious to one skilled in the art are intended to be included within the scope of the claims" (Col 31, lines 4-9).

Oshima et al. does not particularly teach wherein the slit is formed by chemical etching, however it would be well known to use any form of etching available at the time of the invention that does not require precision cutting (for example, wet etching or

photochemical etching) in order to produce the light transmissive portion of a slit sheet since the only functional precision requirement is the equivalent of that produced by punching out the material.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use chemical etching to produce the light transmissive portion of a slit sheet as one of the many choices of etching a thin stainless steel plate available to a designer that would produce an equivalent functioning part.

Regarding claims **2-3**, Oshima et al. discloses wherein the light source is configured for directing said beam obliquely through the slit and such that the beam path through the slit lies in a plane substantially aligned with said slit (See Fig 12 Col 5, lines 61-65 and Col 18, lines 1-11).

Regarding claim **4**, Oshima et al. discloses wherein the light detector is configured for sensing reflections of said beam following a path through the slit that lies in a plane substantially aligned with the slit (See Fig 12 Col 5, lines 61-65 and Col 18, lines 1-11).

Regarding claim **5**, Oshima et al. disclose wherein the light detector is directional and arranged such that it is directed along a line substantially normal to the slit (See Fig 12 Col 5, lines 61-65 and Col 18, lines 1-11).

Regarding claim **6**, Oshima et al. discloses wherein the light source is an infrared LED (Col 5, lines 61-65).

Regarding claim **7**, Oshima et al. discloses wherein the metallic element is formed from a stainless steel (Col 21, lines 25).

Regarding claim 8, Oshima et al. discloses further comprising a panel by which a sheet can be passed (See Fig 19 and Fig 21, items 230 and 253 which together form a flat surface (i.e. "a panel") at the lower portion), the panel having an aperture through which the slit is exposed (Fig 21, item 256).

Regarding claim 9, Oshima et al. discloses further comprising a member having a dished portion (Fig 21, item 230 where the upper curved surface represents a "dished portion"), wherein the slit is formed in an opaque element (See Fig 21, item 240 and Col 21, lines 23-26) which is accommodated in said dished portion (and the dished portion is received in said aperture (Fig 21, item 256).

Regarding claim 12-13, Oshima et al. discloses all the elements of claims 1-9 as shown above.

Oshima et al. suggests that the slit sheet (Fig 20, item 240 and Fig 31) is a "thin metal plate, made of...stainless steel" (Col 21, lines 24-25) capable of being "mechanically held between the sheet pressing member 230 having a substantially circular-arc-shaped bottom surface and a tapered surface of the optical head body 250 to be warped in such a manner that the central light transmitting portion 241 facing the light restricting hole 233 projects downwards to be pressed against the reading opening portion 256" (See Col 20, lines 44-51 and Fig 21).

Oshima et al. does not particularly teach that the thickness of the thin metal plate is in the range 0.05 to .1 mm and preferably 0.075 mm.

However, any thin stainless steel plate of a thickness that is capable of being shaped to meet the spatial and optical requirements of Oshima et al. would be

acceptable for use in the assembly of Fig 20 as a matter of design choice, since the specific thickness of the plate does not appear to be a critical feature to the invention. In addition, applicant's claimed dimension of preferably .075 mm, which is about the thickness of a piece of paper, would clearly be capable of meeting the previously described functional requirements.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use a .075 mm thick stainless steel sheet metal as a slit sheet in a latent image reading apparatus, as one of the choices of sheet metal thicknesses available to the designer that would perform the same spatial and optical functions of the slit sheet as disclosed by Oshima et al.

Furthermore, it has been held that "where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device" (See MPEP 2144.04, Section IV, Part A). (*In re Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed Cir. 1984), *cert.denied*, 469 U.S. 830, 225 USPQ 232 (1984)).

Regarding claims **14 and 17**, Oshima et al. discloses a sheet validator (Fig 19, item 206) including a sheet path (Fig 19, item 208) along which a sheet to be validated is passed (Col 20, lines 3-10).



a bar code scanner, according to claim 1, located for scanning a bar code on a sheet passing along the sheet path, wherein the sheet validator comprises said body (See Fig 19, item 200A and Fig 20, and Col 10, lines 23-27 and Col 1, lines 9-13).

### ***Response to Arguments***

Regarding claim 1, applicant has amended the claim to clarify that the opening is arranged for being brought into proximity with "a surface bearing" a bar code and that light from said beam is reflected back "from the surface" and has further amended to clarify that the metallic element is a "sheet" and that the slit is formed "by chemical etching, the width of the slit being in the range 0.2 mm to 0.4 mm" and has argued that the previously cited reference of Oshima et al. (US 5,463,212) does not teach these additional limitations.

Applicant's arguments with respect to claims **1 and 15** and their respective dependent claims have been fully considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

3. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Andler whose telephone number is (571) 270-5385. The examiner can normally be reached on Monday-Friday 7:30 AM to 3:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Lee can be reached on (571) 272-2398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael Andler/

/Michael G Lee/

Art Unit: 2876

Examiner, Art Unit 2876

Supervisory Patent Examiner, Art Unit 2876